Photo by Matthew J. Thomas. Modified.

Go Ahead, Have a Drink

By LCdr. Denny Shelton

Summer in South Texas—what could be better? I mean, the fishing is good, the beer is cold, and South Padre Island is kickin'. OK, the heat is oppressive, the days are long, and Corpus approach occasionally calls out radar contact on the mosquitoes.

I was a well-established IP, about to take out my umpteenth on-wing for early fam maneuvers. Our flight was scheduled for just after lunch, right as the sun was approaching its highest point. The student was solid and a real go-getter; the pressure he exerted on himself was more than I ever could. We completed our brief and walked to the aircraft for preflight. As promised, the temperature was in the high 90s, and the humidity was matching. We were sweating profusely, and I was more than glad this was not a fam 1, where it would take a good 30 minutes just to get the air conditioning going.

Once airborne, we practiced level turns, and, after chasing the horizon with the nose a couple times, I took the controls. I began my normal spiel about fixing a point on the nose with the horizon and then pulling that point across the blue Texas sky. We completed a 360 at 45 degrees AOB one way, rolled through level and into a 45-degree AOB in the other direction.

Halfway through the turn, my student said he didn't feel well, so we rolled out. I offered sage advice about going to 100-percent O2, fully turning up the air conditioning, looking at the horizon, and making sure your bag is ready—just in case. When I thought everything was all right, I saw my stud go for the bag and then hunch his back as he dry heaved. No big deal, I've

been here before; just wait until he's done and RTB. Nope—fate dealt me a different set of cards this time. After watching another quick heave, I saw his entire body stiffen, go into convulsions, and then go limp.

"Holy frijoles" and "Madre de Dios," I exclaimed. This kid just died on me, and I can't do a thing about it. Not only that, but, when he convulsed, his feet shot up under the pedals and jammed them solid—no rudder control at all for the home team.

So, what'cha gonna do now? Done dropped yer pistol when ya jumped through the winda!

After a good four hours—actually about 10 seconds—I saw his chest rise and fall in a normal rhythm. But, he still was out cold.

I turned toward Corpus, calling to my student and going over contingencies in my mind. I'll make as many approaches as I need to put down safely, even if it means gear up. If I don't feel I can get it down and

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bring us home, then I'll point it toward the Gulf and take the silk-nylon elevator down. *[I trust the author would've waited for the student to come to and make it a team bailout—Ed.]*

As it turns out, I never had to make any approaches with stuck pedals. After about two minutes, my copilot woke enough to understand me. It still took a couple seconds for him to become coherent; his condition reminded me of G-LOC.

We landed, and I got my student to medical for a complete checkup. He returned to flight status soon after.

What happened up there? He experienced a combination of several physiological effects. First and foremost, he was dehydrated, which lowered his tolerance for stress. The dehydration also helped to bring on the nausea and affected his blood pressure. When he became sick, he literally gave himself G-LOC by cutting off the blood supply to his brain, which turned out his lights in a dramatic show.

While we each had water in the aircraft, I should've made him drink all he had. There's no way I could keep him from getting airsick (yes, Sully, for once my flying was smooth), but, since his flight suit was drenched before we strapped in the plane, I should've been alarmed. I also should have had him drink water before we even went flying.

Our Navy is operating in some oppressive regions around the world. I've preflighted aircraft where the OAT gauge was about pegged out, and you couldn't touch the bird without gloves on. You can sweat your life away before you even get in the air.

The only solution is to drink a lot; within 12 hours or 12 feet, it later can save you a headache. Oh, that's water by the way; sorry y'all, I don't write the rules.

LCdr. Shelton flies with HSL-42.

Makes you wonder how this article would have been written had no IP been in the aircraft.

Normal body functions such as urination, sweating, and breathing can result in the loss of three to four pints of water per day. Add a 90-degree day with high humidity, flight gear, anxiety, and the greenhouse effect from an enclosed cockpit, and the potential exists for some type of physiological episode.

Dehydration in the aviation environment is very common, even when not dealing with extreme temperatures as discussed in this article. A pilot can show up dehydrated for a variety of reasons. Dehydration could be a result of increased sweating from a strenuous workout without adequate fluid replacement, or by consuming caffeinated drinks (such as colas, coffee or tea), which cause the elimination of more fluid than has been consumed. Drinking four cups (eight ounces) of caffeinated beverages causes the body to excrete five cups of fluid. Some aviators even go as far as dehydrating themselves before flight to avoid urinating while airborne.

The good news is that dehydration can be monitored. You might think that thirst would be considered the primary indicator of dehydration, but, unfortunately, thirst is not a good indicator as it occurs after dehydration has started. Dehydration, however, can be monitored by urine color. Darker-colored urine indicates worsening dehydration. Nearly colorless or slightly yellow urine indicates the proper amount of water has been consumed.

Those are the facts about dehydration. What can you do? Drink plenty of water, especially when the ambient temperatures are high. Stay away from caffeinated beverages; if you feel the necessity to consume them, drink water to offset their effects to stay hydrated. If you need flavor to make the water more palatable, add a little lemon or lime to perk things up.

—Cdr. Rick Erickson, aeromedical analyst, Naval Safety Center.